

**MARYLAND DEPARTMENT OF THE ENVIRONMENT**

1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719

410-537-3375 • 800-633-6101 x3375 • [www.mde.state.md.us](http://www.mde.state.md.us)

Waste Management Administration • Solid Waste Program

**Coal Combustion Byproducts (CCB)  
Annual Generator Tonnage Report**

**Instructions for Calendar Year 2010**

The following is general information relating to the requirement for reporting quantities of coal combustion byproducts that were managed in the State of Maryland during calendar year 2010. Please answer the questions on the form provided, attaching additional information and any requested supplemental information to the back of the form. Questions can be directed to the Solid Waste Program at (410) 537-3318 or via email at [edexter@mde.state.md.us](mailto:edexter@mde.state.md.us).

**I. Background.** This requirement that generators of coal combustion byproducts (CCBs) submit an annual report was instituted in the Code of Maryland Regulations COMAR 26.04.10.08, that was promulgated effective December 1, 2008. The regulation requires that any non-residential generator of CCBs submit a report to the Department by March 1 of each year describing the manner in which CCBs generated within the State were managed during the preceding calendar year. Additional information and specific instructions follow. For more detailed information, please refer to COMAR 26.04.10.08.

**II. General Information and Applicability.**

**A. Definitions.** Coal combustion byproducts are defined in COMAR 26.04.10.02B as:

*"(3) Coal Combustion Byproducts. (a) "Coal combustion byproducts" means the residue generated by or resulting from the burning of coal.*

*(b) "Coal combustion byproducts" includes fly ash, bottom ash, boiler slag, pozzolan, and other solid residuals removed by air pollution control devices from the flue gas and combustion chambers of coal burning furnaces and boilers, including flue gas desulfurization sludge and other solid residuals recovered from flue gas by wet or dry methods. "*

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A generator of CCBs is defined in COMAR 26.04.10.02B as:

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*"(9) Generator.*

*(a) "Generator" means a person whose operations, activities, processes, or actions create coal combustion byproducts.*

*(b) "Generator" does not include a person who only generates coal combustion byproducts by burning coal at a private residence."*

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**B. Applicability.** If you or your company meet the definition of a generator of CCBs as defined above, you must provide the information as required below. For the purposes of this report, "you" shall hereinafter refer to the generator defined above. Please note that COMAR 26.04.10.08 requires generators of CCBs to submit an annual report to the Department



Facility Name: Constellation - C.P. Crane

## CCB Tonnage Report – 2010

concerning the disposition of the CCBs that they generated the previous year. **THIS INCLUDES CCBS THAT WERE NOT SEPERATELY COLLECTED BUT WERE PRODUCED BY THE BURNING OF COAL AND WERE DIRECTLY CONTRIBUTED TO A PRODUCT, such as cement.** Where the amount cannot be directly measured, estimates based on the amount of coal burned can be used. The method of determining the volume of CCBs produced must be described.

**III. Required Information.** The following information must be provided to the Department by March 1, 2009:

A. Contact information:

Facility Name: C.P. Crane Electric Generation Station

Name of Permit Holder: Constellation Power Source Generation

Facility Address: 101 Carroll Island Road  
Street

Facility Address: Chase Maryland 21220  
City State Zip

County: Baltimore

Contact Information (Person filing report or Environmental Manager)

Facility Telephone No.: 410.682.9797 Facility Fax No.: 410.682.9805

Contact Name: John E. Murosko, P.G. **RECEIVED**

Contact Title: Program Manager, Environmental Services **FEB 28 2011**

Contact Address: 1005 Brandon Shores Road  
Street **SOLID WASTE  
OPERATIONS DIVISION**

Contact Address: Baltimore Maryland 21226  
City State Zip

Contact Email: john.murosko@constellation.com

Contact Telephone No.: 410.787.5471 Contact Fax No.: 410.787.6637

*For questions on how to complete this form, please call Edward Dexter, Solid Waste Program at 410-537-3318.*

B. A description of the process that generates the coal combustion byproducts, including the type of coal or other raw material that generates the coal combustion byproducts. If the space provided is insufficient, please attach additional pages:

The C.P. Crane Generating Station (Crane) is located along Seneca Creek in eastern Baltimore County. The plant consists of two coal-fired units: Unit 1, which is rated at 200 MW gross, 190 MW net, and which began operating in 1961; and Unit 2, which is rated at 205 MW gross, 195 MW net, and which began operating in 1963. Both units use cyclone-type boilers manufactured by Babcock and Wilcox (B&W). Coal is supplied to the plant via rail and is stored adjacent to the plant. The coal is prepared for use by two Pennsylvania hammer mill type crushers. It is gravity-fed to the boilers after transport into the plant via mechanical conveyor. Each unit is equipped with a baghouse for capture and control of particulate matter (PM) emissions. Fly ash is typically collected from the baghouse hoppers and conveyed pneumatically to storage silos from where it is loaded into trucks for final disposition. Currently, fly ash is also removed at the air heater hoppers using vacuum trucks, and transported to a temporary storage facility for final disposition. The temporary storage facility consists of a recently-covered asphalt pad located in the coal yard, and is available as circumstances warrant its use. Boiler slag is recovered from the boilers, stored in dewatering bins where it is processed for shipping.

Coals burned in 2010 at the C.P. Crane Plant included bituminous coal from Northern Appalachian, and sub-bituminous coal from the Powder River Basin.

C. The volume of coal combustion byproducts generated during calendar year 2010, including an identification of the different types of coal combustion byproducts generated and the volume of each type generated. If the space provided is insufficient, please attach additional pages in a similar format:

Table I: Volume of CCBs Generated for Calendar 2010:

Reporting Year	Volume of CCB Type:	Volume of CCB Type:	Volume of CCB Type:
	<u>Fly Ash (dry tons)</u>	<u>Boiler Slag (dry tons)</u>	_____
2010	22,189	11,721	

Additional notes:

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D. Descriptions of any modeling or risk assessments, or both, conducted relating to the coal combustion byproducts or their use that were performed by you or your company during the reporting year. Please attach this information to the report.

- Neither modeling nor risk assessments have been performed during the past year.

E. Copies of all laboratory reports of all chemical characterizations of the coal combustion byproducts. Please attach this information to the report.

- Various Samples, Baltimore Plants, Phase Separation Science, Inc., March 16, 2010

F. A description of how you disposed of or used your coal combustion byproducts in calendar 2010, identifying:

(a) The types and volume of coal combustion byproducts disposed of or used (if different than described in Paragraph C above), the location of disposal, mine reclamation and use sites, and the type and volume of coal combustion byproducts disposed of or used at each site:

Year	CCB Receiver	Fly Ash (dry tons)	Boiler Slag (dry tons)	CCBs Use
2010	Virginia Materials, Inc., MD	0	9,015	Abrasives/roofing mat'l
	Virginia Materials, Inc., VA	0	2,706	Abrasives/roofing mat'l
	Waste Mgmt, VA	5,310	0	landfill, daily cover
	The East End LF, VA	7,084	0	landfill, daily cover
	Tri-Cities LF, VA	9,795	0	landfill, structural fill

and (b) The different uses by type and volume of coal combustion byproducts:

- CCBs delivered to Waste Management were used for daily cover in a municipal solid waste (MSW) landfill located in King George, VA.
- CCBs delivered to The East End Landfill in Henrico, VA were used for daily cover in a municipal solid waste (MSW) landfill.
- CCBs delivered to Tri-Cities Landfill in Petersburg, VA will be used as structural fill to build walls and barriers in that MSW landfill.
- Boiler slag delivered to Virginia Materials, Inc. in Baltimore, MD were used for abrasives and roofing granules. Beginning in September 2010, delivery was taken in Norfolk VA.

If the space provided is insufficient, please attach additional pages in a similar format. . (Please note that in subsequent years you need only provide the information in Section F for the last calendar year).

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G. A description of how you intend to dispose of or use coal combustion byproducts in the next 5 years, identifying:

(a) The types and volume of coal combustion byproducts intended to be disposed of or used, the location of intended disposal, mine reclamation and use sites, and the type and volume of coal combustion byproducts intended to be disposed of or used at each site:

- Fly Ash: CPSG projects that as much as 53,000 tons will be generated each year for the next five years. The fly ash will be disposed of in landfills in Virginia and Maryland authorized to accept CCBs, used primarily for daily cover, unless suitable beneficial uses are identified. Beginning in October 2011, CPSG will place unused flyash in a permitted industrial waste landfill in Baltimore City.

- Boiler Slag: CPSG projects that approximately 29,000 tons will be generated each year for the next five years, all of which will be beneficially used for blasting grit and/or roofing granules.


and (b) The different intended uses by type and volume of coal combustion byproducts.

- Fly Ash: While no beneficial use of the projected 53,000 tons of fly ash that may be generated is currently projected for the next 5 years, it is possible that all or some portion of the fly ash generated at C.P. Crane will be beneficially used. The potential exists that with proper certification as a Class C fly ash, it can be beneficially used in concrete products.

- Boiler Slag: Approximately 29,000 tons each year will be beneficially used for blasting grit and/or roofing granules.

If the space provided is insufficient, please attach additional pages in a similar format.

**IV. Signature and Certification.** An authorized official of the generator must sign the annual report, and certify as to the accuracy and completeness of the information contained in the annual report:

This is to certify that, to the best of my knowledge, the information contained in this report and any attached documents are true, accurate, and complete.		
 Signature	<u>Daniel L. Haught, VP Baltimore Operations</u> 410.787.6415 Name, Title, & Telephone No.  <u>Daniel.haught@constellation.com</u> Your Email Address	<u>2-24-2011</u> Date

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**Analytical Report for**  
**Constellation Energy Group**  
**Certificate of Analysis No.: 10031105**

**Project Manager: John Basciano**  
**Project Name : Various Samples**  
**Project Location: Baltimore Plants**



**March 16, 2010**  
**Phase Separation Science, Inc.**  
**6630 Baltimore National Pike**  
**Baltimore, MD 21228**  
**Phone: (410) 747-8770**  
**Fax: (410) 788-8723**

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# PHASE SEPARATION SCIENCE, INC.



March 16, 2010

**John Basciano**  
**Constellation Energy Group**  
1005 Brandon Shores Rd.  
Baltimore, MD 21226

Reference: PSS Work Order No: **10031105**  
Project Name : Various Samples  
Project Location: Baltimore Plants

Dear John Basciano :

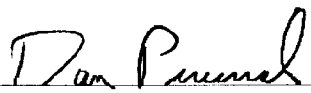
The attached Analytical and QC Summary lists the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order numbered **10031105**.

All work reported herein has been performed in accordance with referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 15, 2010. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 10 years, after which time it will be disposed without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or [info@phaseonline.com](mailto:info@phaseonline.com).

  
\_\_\_\_\_  
**Dan Prucnal**  
Laboratory Manager



**Case Narrative Summary**  
**Client Name: Constellation Energy Group**  
**Project Name: Various Samples**

**Project ID: N/A**

**Work Order Number: 10031105**

The following samples were received under chain of custody by Phase Separation Science (PSS) on 03/11/2010 at 10:45 am

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
<del>10031105-001</del>	<del>ST Rejects Silo #4</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-002</del>	<del>BS #1 Fly Ash</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-003</del>	<del>BS #2 Fly Ash</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-004</del>	<del>BS Bottom Ash</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
10031105-005	CP Crane #2	SOLID	03/09/2010 15:00
<del>10031105-006</del>	<del>Wagner #2 #3 Pac #3</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-007</del>	<del>Wagner BA #2-#3</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-008</del>	<del>BS Gypsum #1-#1</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>
<del>10031105-009</del>	<del>BS FGD WW Sludge</del>	<del>SOLID</del>	<del>03/09/2010 15:00</del>

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in the Sample Receipt Checklist.

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

**Notes:**

1. The presence of common laboratory contaminants such as acetone, methylene chloride and phthalates, may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. The following analytical results are never reported on a dry weight basis: pH, flashpoint, moisture and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].

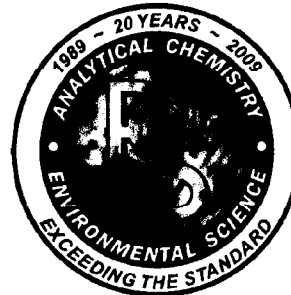
**Standard Flags/Abbreviations:**

- B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- C Results Pending Final Confirmation.
- D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- J The target analyte was positively identified below the reporting limit but greater than one-half of the reporting limit.
- LOD Limit of Detection. An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte and matrix specific.
- ND Not Detected at or above the reporting limit.
- RL PSS Reporting Limit.
- U Not detected.



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# PHASE SEPARATION SCIENCE, INC.



## CERTIFICATE OF ANALYSIS

No: 10031105

Constellation Energy Group, Baltimore, MD

March 16, 2010

Project Name: Various Samples  
Project Location: Baltimore Plants

Sample ID: CP Crane #2

Matrix: SOLID

Date/Time Sampled: 03/09/2010 15:00 PSS Sample ID: 10031105-005

Date/Time Received: 03/11/2010 10:45

TCLP Metals

Analytical Method: SW846 6020A

Preparation Method: SW846 3010A

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 22:41	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:41	1033
Chromium	0.056	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 22:41	1033
Selenium	0.247	mg/L	0.050		1	1	03/12/10	03/12/10 22:41	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:41	1033

~~Sample ID: Wagner #2-#3 Pac #3~~

~~Matrix: SOLID~~

~~Date/Time Sampled: 03/09/2010 15:00 PSS Sample ID: 10031105-006~~

~~Date/Time Received: 03/11/2010 10:45~~

~~TCLP Metals~~

~~Analytical Method: SW846 6020A~~

~~Preparation Method: SW846 3010A~~

	Result	Units	RL	Flag	Dil	TCLP Limit	Prepared	Analyzed	Analyst
Arsenic	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Barium	ND	mg/L	1.0		1	100	03/12/10	03/12/10 22:49	1033
Cadmium	ND	mg/L	0.050		1	1	03/12/10	03/12/10 22:49	1033
Chromium	0.058	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Lead	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033
Mercury	ND	mg/L	0.002		1	0.2	03/12/10	03/12/10 22:49	1033
Selenium	0.248	mg/L	0.050		1	1	03/12/10	03/12/10 22:49	1033
Silver	ND	mg/L	0.050		1	5	03/12/10	03/12/10 22:49	1033